

ABSTRACT

PT XYZ is a company engaged in aircraft manufacturing. PT XYZ produces various types of airplanes and helicopters, besides that PT XYZ accepts orders for the production of A350 aircraft components, one of which is the pane 3 fuel lower component through the A350 realization program with a make-to-order strategy. Based on the company's historical data from January 2018 - October 2022 there are 9 types of defects and the percentage of defective products almost every year exceeds the tolerance limit of 1%. One of the problematic processes is heat treatment artificial aging with artificial aging temperature defects exceeding 165 ± 5 °C. This artificial aging heat treatment process uses a “precons” furnace machine and the process with the highest number of defects in the period January 2018 – October 2022 with a total of 26 product defects or around 48%. The purpose of this research is to find out the causes of the problems and provide suggestions for improvements to improve production quality. Data collection for this study was carried out on a primary and secondary basis. To solve the problems that occur, will use the DMAI method (Define, Measure, Analyze, Improve) and the QFD method is used to design a tool to improve production quality. Based on the DMAI method, the cause of problems with the artificial aging heat treatment process is that the thermocouple used is inaccurate due to delays in thermocouple calibration. To overcome this problem, an alarm maintenance tool is designed using QFD. This maintenance alarm will function to remind operators and related teams regarding machine calibration and maintenance. With this proposed tool, it is expected to minimize defects by 48.14% and increase the sigma level from 4.202 sigma to 4.361 sigma.

Keywords – Heat Treatment, Panel 3 Fuel Lower, Kalibrasi, Maintenance, QFD, Alarm Maintenance